

IV. AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A plasma cleaning device for cleaning a process target disposed therein with a plasma, comprising:

a chamber;

an exhaust mechanism for evacuating the chamber to a reduced pressure therein lower than atmospheric pressure;

a process gas introducing mechanism for introducing a process gas into the chamber;

an active plate electrode, a reflecting plate electrode and an earth plate electrode housed in the chamber and being disposed apart from one another in a facially-opposing, generally parallel manner with the active plate electrode disposed between the earth plate electrode and the reflecting plate electrode, the earth plate electrode being in an electrically-grounded state, the reflecting plate electrode being in an electrically-floating state, the active plate electrode and the earth plate electrode disposed apart from one another to define a plasma-producing space therebetween;

a plasma generating power supply connected to the active plate electrode for supplying a power supply for use in generating the plasma in the plasma-producing space;

and

an auxiliary power supply connected to the process target by an electrically conductive path connected to the process target from the auxiliary power supply for applying an electric potential to the process target,

wherein the process target is disposed within the chamber at a disposing position being defined as anywhere within the chamber except inside of the plasma-producing space.

2. (Previously Presented) The plasma cleaning device according to claim 1, wherein the disposing position of the process target is at the other side of the earth plate electrode from the active plate electrode.

3. (Canceled)
4. (Previously Presented) The plasma cleaning device according to claim 1, wherein the auxiliary power supply is a DC power supply.
5. (Original) The plasma cleaning device according to claim 4, wherein an output potential of the DC power supply is variable.
6. (Previously Presented) The plasma cleaning device according to claim 1, wherein the auxiliary power supply is an AC power supply.
7. (Previously Presented) The plasma cleaning device according to claim 1, wherein a resistor is connected between the auxiliary power supply and the process target.
8. (Previously Presented) The plasma cleaning device according to claim 1, wherein a diode is connected between the auxiliary power supply and the process target so that the process target side thereof is the anode thereof.
9. (Previously Presented) The plasma cleaning device according to claim 1, wherein a series circuit of a resistor and a diode is connected between the auxiliary power supply and the process target, the diode being connected so that the process target side thereof is the anode thereof.
10. (Previously Presented) The plasma cleaning device according to claim 1, wherein the auxiliary power supply is provided with a protective circuit against a current flowing thereinto from the process target.

11. (Original) The plasma cleaning device according to claim 10, wherein the protective circuit is a resistor connected in parallel to the auxiliary power supply.

12. (Original) The plasma cleaning device according to claim 10, wherein the protective circuit is a parallel circuit of a resistor and a capacitor connected in parallel to the auxiliary power supply.

13. (Original) The plasma cleaning device according to claim 1 or 2, wherein an insulating cover is disposed in the chamber,
the insulating cover covering the pair of opposite electrodes and the disposing position of the process target,
and the insulating cover having an opening through which a process gas flows.

14. (Original) The plasma cleaning device according to claim 1 or 2, wherein plural sets of the pair of opposite electrodes and the disposing position of the process target are provided in a common chamber,
a space in the chamber is partitioned into subspaces for the sets so that a plasma is generated by each of the sets in a corresponding subspace independently of the other sets, and
the electrically conductive path is also connected to the process target of each of the sets.

15. (Previously Presented) The plasma cleaning device according to claim 14, wherein the active plate electrode of each of the sets is connected to the plasma generating power supply through a corresponding resistor in parallel each other.

16. (Original) The plasma cleaning device according to claim 1 or 2, wherein the process gas is air.

17. (Currently Amended) The plasma cleaning device according to claim 1 or 2, wherein an inlet port for the process gas is provided to a the vent pipe of the chamber.

18. (Canceled)

19. (Canceled)

20. (Canceled)